CHARGE NUMBER: 1620

PROJECT TITLE: ELECTROPHYSIOLOGICAL STUDIES

PERIOD COVERED: NOVEMBER 1 - 30, 1985

PROJECT LEADER: F. P. GULLOTTA

DATE OF REPORT: DECEMBER 4, 1985

WRITTEN BY: C. S. HAYES C.S.H.

## I. EVENT-RELATED POTENTIALS (ERPs)

### A. Difference Testing Employing Cognitive ERPs

In order to determine the effects of varying stimulus discriminability and inter-stimulus-intervals (ISIs) on the cognitive ERP, experiments employing auditory stimuli have been initiated.[1] Three ISIs (1.1, 5.3 and 11.1 seconds) and two levels of discriminability (easy vs difficult) are being utilized.

To date, results from one subject suggest that with respect to stimulus discriminability our previous findings have been replicated. That is, at each of the ISIs tested, the cognitive component elicited to the easy discrimination is larger than the component elicited to the more difficult discrimination. Perhaps even more interesting, however, are the data with respect to the various ISIs. At short ISIs the traditional finding has been confirmed in that the cognitive component appears to only be elicited in response to target stimuli. However, at long ISIs a cognitive component is elicited to standard stimuli as well as target stimuli. Under these conditions it seems that the passage of time (i.e., absence of stimulation) serves as the background against which targets as well as standards are compared. In fact, under the long ISI condition, the experiment appears to take on the characteristics of a two-target experiment, with the absence of stimulation serving as the standard stimulus and the standard and target stimuli serving as high and low probability targets respectively. These findings are analogous to those obtained in flavor discrimination experiments which require the use of long ISIs. Therefore, due to the implications of these findings for the interpretation of data from flavor discrimination experiments, our plans are to test at least one additional subject utilizing the auditory cognitive ERP paradigm in order to further investigate this phenomenon.

## II. THE EFFECTS OF $CO_2$ ON CIGARETTE SMOKE FLAVOR

To date, three additional subjects have completed discrimination training and are currently being retested.[2] Retesting of these subjects should be completed by the middle of the first quarter of 1986.

## III. REFERENCES


1. Wannamaker, I. Notebook No. 8262, pp. 64-121.
2. Hayes, C. S. Notebook No. 8150, pp. 122-126, 131-137.


2000829675

Source: https://www.industrydocuments.ucsf.edu/docs/tlfm0000